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(57)Abstract:

PROBLEM TO BE SOLVED: To obtain the subject new enzyme consisting of a modified phytase derived from a bacterium belonging to the genus *Aspergillus*, having improved properties capable of giving myoinositol and inorganic phosphoric acid by acting on phytic acid, and useful as a food additive, a feed additive, etc.

SOLUTION: This enzyme is a new modified phytase having an improved activity obtained by partially modifying the amino acid sequence of the phytase of *Aspergillus fumigatus* through the comparison between the structure of phytase's active sites of *Aspergillus fumigatus* and that of *Aspergillus niger* which has more preferable properties of activity. The enzyme has an effect for hydrolyzing phytic acid into myoinositol and inorganic phosphoric acid, and useful as a food additive, a feed additive, etc. The modified phytase is obtained as follows: a structure of phytase having a more preferable activity is designed using computer based on the three-dimensional structure of the phytase of *Aspergillus niger* to obtain a model structure; and the amino acid sequence of the phytase of *Aspergillus fumigatus* is partially modified according to the model structure.